

**We claim:**

1. A method for detecting, diagnosing, evaluating or monitoring cancer or premalignant disease in a human, the method comprising the steps of:
  - a) extracting total extracellular RNA from a non-cellular fraction of a bodily fluid from a human, wherein a fraction of said extracted RNA comprises an RNA species that is epidermal growth factor RNA, epidermal growth factor receptor RNA, her-2/neu RNA, c-myc RNA, heterogeneous nuclear ribonucleoprotein A2/B1 RNA, or any combination thereof;
  - b) amplifying or signal amplifying said fraction of the extracted RNA or cDNA prepared therefrom, either qualitatively or quantitatively, using primers or probes specific for said RNA species to produce an amplified product or signal;
  - c) detecting either quantitatively or qualitatively the amplified product or signal;
  - d) comparing the amplified product or signal to the amplified product or signal produced from a fraction of extracellular RNA obtained from one or a plurality of humans having cancer or premalignant disease, or from one or a plurality of humans without cancer or premalignant disease,wherein the cancer or premalignant disease is detected, diagnosed, evaluated or monitored when the human's amplified product or signal is more like the amplified product or signal from the one or plurality of humans having cancer or premalignant disease than like the amplified product or signal from the one or plurality of humans without cancer or premalignant disease.

2. A method according to claim 1 wherein the non-cellular fraction of a bodily fluid is blood plasma or serum.
3. A method for extracting an RNA species from a non-cellular fraction of a bodily fluid using a probe that hybridizes with said RNA species, wherein the RNA species is epidermal growth factor RNA, epidermal growth factor receptor RNA, her-2/neu RNA, c-myc RNA, or heterogeneous nuclear ribonucleoprotein A2/B1 RNA.
4. A method according to claim 3 wherein the non-cellular fraction of a bodily fluid is blood plasma or serum.
5. A method for selecting a human or animal for an epidermal growth factor receptor-directed therapy, the method comprising the step of assaying quantitatively or qualitatively a non-cellular fraction of a bodily fluid of the human or animal for epidermal growth factor receptor RNA or cDNA or epidermal growth factor RNA or cDNA, wherein the human or animal is selected for an epidermal growth factor receptor-directed therapy when said RNA or cDNA is detected by the assay.
6. A method according to claim 5 wherein the non-cellular fraction of a bodily fluid is blood plasma or serum.
7. The method of claim 5, wherein the therapy is a monoclonal antibody therapy.

8. A method for monitoring response in a human or animal to an epidermal growth factor receptor-directed therapy, the method comprising the step of assaying quantitatively or qualitatively a non-cellular fraction of a bodily fluid of the human or animal for epidermal growth factor receptor RNA or cDNA or epidermal growth factor RNA or cDNA, wherein a response to said therapy is monitored by detecting said RNA or cDNA.
9. A method according to claim 8 wherein the non-cellular fraction of a bodily fluid is blood plasma or serum.
10. The method of claim 8, wherein the therapy is a monoclonal antibody therapy.
11. A method for selecting a human or animal for a her2/neu-directed therapy, the method comprising the step of assaying quantitatively or qualitatively a non-cellular fraction of a bodily fluid of the human or animal for epidermal growth factor receptor RNA or cDNA or epidermal growth factor RNA or cDNA, wherein the human or animal is selected for a her2/neu-directed therapy when said RNA or cDNA is detected by the assay.
12. A method according to claim 11 wherein the non-cellular fraction of a bodily fluid is blood plasma or serum

13. The method of claim 11, wherein the therapy is a monoclonal antibody therapy.
14. A method for monitoring response in a human or animal to a he2/neu-directed therapy, the method comprising the step of assaying quantitatively or qualitatively a non-cellular fraction of a bodily fluid of the human or animal for epidermal growth factor receptor RNA or cDNA or epidermal growth factor RNA or cDNA, wherein a response to said her2-neu-directed therapy is monitored by detecting said RNA or cDNA.
15. A method according to claim 14 wherein the non-cellular fraction of a bodily fluid is blood plasma or serum.
16. The method of claim 14, wherein the therapy is a monoclonal antibody therapy.
17. A method for selecting a human or animal for a tyrosine kinase-directed therapy, the method comprising the step of assaying quantitatively or qualitatively a non-cellular fraction of a bodily fluid of the human or animal for epidermal growth factor receptor RNA or cDNA or epidermal growth factor RNA or cDNA, wherein the human or animal is selected for a tyrosine kinase-directed therapy when said RNA or cDNA is detected by the assay.
18. A method according to claim 17 wherein the non-cellular fraction of a bodily fluid is blood plasma or serum.

19. The method of claim 17, wherein the therapy is a tyrosine kinase inhibitor, monoclonal antibody, small molecule, vaccine, or anti-sense therapy.
20. A method for monitoring response in a human or animal to a tyrosine kinase-directed therapy, the method comprising the step of assaying quantitatively or qualitatively a non-cellular fraction of a bodily fluid of the human or animal for epidermal growth factor receptor RNA or cDNA or epidermal growth factor RNA or cDNA, wherein a response to said tyrosine kinase-directed therapy is monitored by detecting said RNA or cDNA.
21. A method according to claim 20 wherein the non-cellular fraction of a bodily fluid is blood plasma or serum.
22. The method of claim 20, wherein the therapy is a tyrosine kinase inhibitor, monoclonal antibody, small molecule, vaccine, or anti-sense therapy.
23. A kit for selecting a human or animal for a therapy according to the method of claim 5, wherein said kit comprises primers or probes specific for said epidermal growth factor receptor RNA or epidermal growth factor RNA species.

24. A kit for monitoring tumor response in a human or animal according to the method of claim 8, wherein said kit comprises primers or probes specific for said epidermal growth factor receptor RNA or epidermal growth factor RNA species.
25. A kit for selecting a human or animal for a therapy according to the method of claim 11, wherein said kit comprises primers or probes specific for said her2/neu RNA species.
26. A kit for monitoring tumor response in a human or animal according to the method of claim 14, wherein said kit comprises primers or probes specific for said her2/neu RNA species.
27. A kit for selecting a human or animal for a therapy according to the method of claim 17, wherein said kit comprises primers or probes specific for said tyrosine kinase RNA species.
28. A kit for monitoring tumor response in a human or animal according to the method of claim 20, wherein said kit comprises primers or probes specific for said tyrosine kinase RNA species.